

## MARGINS Successor Planning Workshop - Preliminary Agenda

### Sunday, February 14 – Arrive

Early Afternoon - **Tour of San Antonio Missions**

17:00-19:00 **Registration, Reception, and Ice Breaker**

19:00-21:00 **Dinner on your own**

### Monday, February 15

07:00-08:00 **Breakfast**

08:00-08:30 **Workshop Organization and Objectives** (*Morgan and Conveners*)

08:30-08:45 **MARGINS Review & Decadal Review Committee Report** (*Abers*)

08:45-09:00 **NSF Introduction: MARGINS Past and Future** (*Haq*)

09:00-10:00 **Subduction Zone Processes**

09:00-09:15 *K. Kelley* - Overview and Future Perspectives on Subduction Zone Processes.

09:15-09:45 *K. Wang* - Subduction Zone Geodynamics: Walking the Maze of Coupling and Decoupling

09:45-10:00 *Discussion*

10:00-10:15 **Coffee break**

10:15-11:15 **Rifting Processes**

10:15-10:30 *M. Behn* - Overview and Future Perspectives on Rifting Processes.

10:30-11:00 *D. Forsyth* - Rupturing Continental Lithosphere: Scientific Challenges

11:00-11:15 *Discussion*

11:15-12:15 **Sedimentary Processes**

11:15-11:30 *R. Slingerland* - Control of Margin Dynamics by Sediments, Part 1

11:30-12:00 *D. Mohrig* - Control of Margin Dynamics by Sediments, Part 2

12:00-12:15 *Discussion*

12:15-13:30 **Lunch**

13:30-14:30 **Short Talks 1 – Geochemical Cycles**

13:30-13:45 *R. Dasgupta* - Carbon Cycling in Subduction Zones

13:45-14:00 *A. Shaw* - Mantle Melting and Volatile Fluxes at the Gakkel Ridge - Can Ultra-Slow Spreading Systems Reveal Insights to Rift Initiation?

14:00-14:15 *L. Derry* - Surface Processes, Weathering Fluxes and CO<sub>2</sub> Sinks in Arc Terranes

14:15-14:30 *Discussion*

14:30-15:30 **Short Talks 2 – Convergent Margin Deformation**

- 14:30-14:45 *G. Spinelli* - Effects of Fluid Circulation in Ocean Crust on Subduction Zone Temperatures and Metamorphism
- 14:45-15:00 *H. Savage* - Remotely Triggered Seismicity in Subduction Zones
- 15:00-15:15 *M. Brudzinski* - Episodic Tremor and Slip: Potential Clues to Accumulation of Strain and State of Stress on Faults
- 15:15-15:30 *Discussion*
- 15:30-15:45 **Instructions for Break-Out Session 1**
- 15:45-16:00 **Coffee break**
- 16:00-17:30 **Break-Out Session 1 – Overarching Themes**  
*Origin and Evolution of Continental Crust*  
*Fluids, Melts, and their Interactions*  
*Climate-Surface-Tectonic Feedbacks*  
*Global Geochemical Cycles*  
*Plate Boundary Deformation and Geodynamics*
- 17:30-19:00 **Posters and Cash Bar**
- 19:00-21:00 **Conference Dinner (w/ MARGINS Classic Panel)**

Tuesday, February 16

- 07:00-08:00 **Breakfast**
- 08:00-09:30 **Summary & Discussion of Break-out Session 1**
- 09:30-10:15 **Rheology and Deformation**  
 09:30-10:00 *G. Hirth* - A Rheological Perspective on Current MARGINS Problems  
 10:00-10:15 *Discussion*
- 10:15-10:30 **Coffee Break**
- 10:30-11:15 **Fluids and Melts**  
 10:30-11:00 *T. Plank* - - The Production and Fate of Fluids and Magmas at Active Margins  
 11:00-11:15 *Discussion*
- 11:15-12:00 **Sediments and Feedbacks**  
 11:15-11:45 *S. Gupta* - Control of Margin Dynamics by Sediments: Part 3  
 11:45-12:00 *Discussion*
- 12:00-13:30 **Lunch**
- 13:30-14:30 **Short Talks 3 – Plate Boundary Deformation and Geodynamics**  
 13:30-13:45 *M. Pritchard* - What Can We Learn About Subduction Zones and Rifting From Geodesy?  
 13:45-14:00 *D. Shillington* - Insights into tectonic and magmatic evolution of the crust and mantle lithosphere during rifting from passive margins: examples from the North Atlantic and the Black Sea

- 14:00-14:15 *M. Billen* - Geometry and Rates of 3D Mantle Flow in Subduction Zones
- 14:15-14:30 *Discussion*
- 14:30-15:30 **Short Talks 4 – Tectonics, Surface Processes, and Crustal Growth**
- 14:30-14:45 *G. Bergantz* - Geological Constraints on the Tempo and Styles of Arc Crust Generation and Differentiation, with an Emphasis on Crustal-Cross Sections
- 14:45-15:00 *A. Densmore* - Dynamics of Simple Sediment Routing Systems in Tectonically-Active Mountain Ranges
- 15:00-15:15 *Discussion*
- 15:15-15:30 **Instructions for Break-Out Session 2**
- 15:30-15:45 **Coffee Break**
- 15:45-17:15 **Break-Out Session 2 – Program Structure**  
*New Initiatives & Questions*
- 17:15-17:30 **Break**
- 17:30-19:00 **Posters and Cash Bar**
- 19:00-21:00 **Dinner on your own**

Wednesday, February 17

- 07:00-08:00 **Breakfast**
- 08:00-09:00 **Summary & Discussion of Break-out Session 2**
- 09:00-09:45 **Panel & Discussion – Relationships w/ Other Programs and Agencies**
- 09:45-10:00 **Coffee Break**
- 10:00-10:30 **Panel & Discussion – Relationships w/ Industry**
- 10:30-11:30 **Short Talks 5 – International Partners**
- 10:30-10:45 *K. Hoernle* - Past and Potential Future Collaboration between MARGINS and the Collaborative Research Center (SFB574) in Kiel, Germany
- 10:45-11:00 *S. Kodaira* - MARGINS-IFREE collaboration - successful results and future directions
- 11:00-11:15 *G. Kimura* - Expectations for international MARGINS' collaborations from the point of view of an "active margin" country
- 11:15-11:30 *Discussion*
- 11:30-12:15 **Panel & Discussion – Broader Impacts of MARGINS**
- 12:15-13:30 **Lunch**
- 13:30-14:00 **Instructions for Break-Out Session 3 (Implementation Models)**
- 14:00-15:00 **Break-Out Session 3 – Implementation & Broader Impacts**  
*Interactions with Other Programs & International Partners*  
*Relationships with Industry*  
*Understanding Geohazards*  
*Methodologies: Geophysics & Geodesy*

*Methodologies: Geodynamic Modeling*  
*Methodologies: Experimental & Analytical*  
*MARGINS Education and Outreach*  
*Data Management (i.e., Archiving, Sharing, and Access)*

15:00-15:30 **Coffee Break**

15:30-16:30 **Summary & Discussion of Break-out Session 3**

16:30-17:00 **Discussion – The Role of Focus Sites in a MARGINS Successor**

17:00-17:30 **Future Plans**

19:00-21:00 **Dinner on your own**

Thursday, February 18

**Half Day Field Trip To Canyon Lake Gorge**

**Science Plan Writing Activities**